

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

10 SEP 2004
REC'D 28 JUN 2004
WIPO PCT

| | | | |
|-----------------------------------------------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--|
| Applicant's or agent's file reference 3211-01-WO | | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416) | |
| International application No. PCT/US 03/07573 | International filing date (day/month/year) 13.03.2003 | Priority date (day/month/year) 14.03.2002 | |
| International Patent Classification (IPC) or both national classification and IPC C10L1/14 | | | |
| Applicant THE LUBRIZOL CORPORATION et al. | | | |



- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date of submission of the demand 12.09.2003 | Date of completion of this report 25.06.2004 |
| Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | Authorized Officer Falls, F Telephone No. +49 89 2399-8350  |

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/US 03/07573**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

Description, Pages

1-20 as originally filed

Claims, Numbers

1-17 received on 16.06.2004 with letter of 16.06.2004

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/US 03/07573**

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Statement

| | | |
|-------------------------------|-------------|------|
| Novelty (N) | Yes: Claims | 1-17 |
| | No: Claims | |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | 1-17 |
| Industrial applicability (IA) | Yes: Claims | 1-17 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

I

1). Prior Art

Document **US-A-5360460(D1)** discloses a fuel additive composition which optionally comprises a diesel fuel, ethanol (Cl's 21 & 23) as well as optionally a hydrocarbyl dicarboxylic acid with 12-18 C atoms in the hydrocarbyl group (col. 6, l. 5-10).

Document **US-A-4242099(D2)** teaches a composition which may comprise diesel, ethanol and a hydrocarbyl succinic acid with 10-30 C atoms (Cl's 1 & 2).

2). Novelty (Art. 33(2) PCT)

Neither D1 nor D2 disclose the surfactant comprising either (c)(1) or (c)(2) as defined in claim 1 as amended. For this reason the subject-matter of the claims is novel.

3). Inventive Step (Art. 33(3) PCT)

The problem addressed by the application is to provide a diesel-ethanol mixture which avoids the problems of **both** separation of phases at low temperatures **and** corrosion (see bridging paragraph, pg 1-2 of description).

Having regard to the fact that (c)(1) and (c)(2) are offered as alternatives for the surfactant, an inventive step may be recognized only if it is established that the problem in both its aspects is solved for each alternative. In this regard attention is drawn to table 2 on pg 13, table 3 on pg 16 and table 4 on pg 17. The first of these gives a number examples of a surfactant incorporating (c)(1) - with or without (c)(2) (e.g. Ex's 1, 5, 11 & 12) but only one incorporating only (c)(2), i.e. Ex. 8. The results in table 3 establish that both embodiments of (c) provide phase stability. However, the results in table 4 establish that the second aspect of the problem is solved only for embodiment (c)(1) as there is no example establishing an effect for (c)(2) in regard to lubricity improvement.

Thus an inventive step has not been established across the breadth of claim 1.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US03/07573

As method claims 13-17 relate to known uses of the composition of claim 1 (or a preferred embodiment thereof) the subject-matter of these claims lack an inventive step in view of the teaching of D1 and D2 (Art. 33(3) PCT).

II

The applicant's attention is drawn to the following matters under Art. 6 PCT:

- 1). Claim 1 is unclear in view of the word "about" in reference to 0.1% wt. of water.
- 2). Although method claims 13 and 16 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness. Hence, claims 13 and 16 do not meet the requirements of Article 6 PCT.
- 3). The sentence on pg 19, l. 19-21 renders the subject-matter of the claims unclear as it seeks to expand the scope of the claimed subject-matter in an unspecified way.
- 4). The description has not been adapted to the claims as amended (Rule 5.1(a)(iii) PCT).

III

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 and D2 is not mentioned in the description, nor are these documents identified therein.